

Briefing Statement

Subject: Reporting Results of the Monitoring Program

Date: July 20, 2005

The broad-based, scientifically sound information obtained through natural resource monitoring has multiple applications for management decision-making, research, education, and promoting public understanding of park resources. The primary audience for the results of vital signs monitoring is park management: provide superintendents, park resource chiefs, and other managers with the data they need to make and defend management decisions and to work with others for the benefit of park resources. However, other key audiences for monitoring results include park planners, interpreters, researchers and other scientific collaborators, the general public, and Congress and OMB. To be most effective, monitoring data must be analyzed, interpreted, and provided at regular intervals to each of these key audiences in a format they can use, which means that the same information needs to be packaged and distributed in several different formats.

The scientific data we need to better understand how park systems work and to better manage the parks will come from many sources. In addition to new field data collected through the I&M Program, other data to help us assess and keep track of the condition of park resources will come from other park projects and programs, other agencies, and from the general scientific community (Figure 1). To the extent that staffing and funding is available, the vital signs program will collaborate and coordinate with these other data collection and analysis efforts, and will promote the integration and synthesis of data across projects, programs, and disciplines.

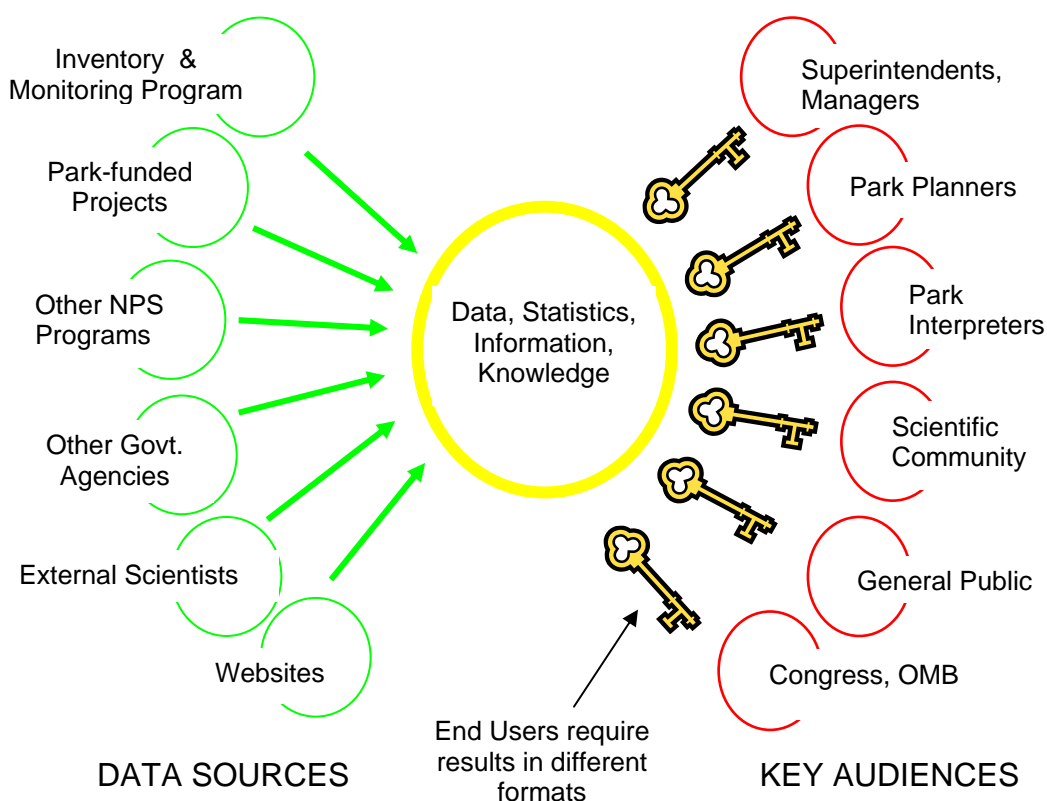


Figure 1. Scientific data for assessing and keeping track of the condition of park natural resources will come from multiple sources, and will be managed, analyzed, and distributed to multiple audiences in several different formats in order to make the results more available and useful.

The vital signs monitoring program can be viewed as an information system, with each of the steps involved in designing and implementing long-term monitoring (e.g., develop monitoring objectives, design monitoring program, collect field and lab data ...) being like pieces of a puzzle (Figure 2). The approach for collecting, managing, analyzing, and reporting monitoring data must be planned and implemented as a package in order for the pieces to fit and the overall program to be effective. Communication, collaboration, and coordination with other projects, programs, and agencies is needed to efficiently and effectively reach the overall goal, which is to understand, protect and restore park resources. Contributions of expertise and funding from parks, other programs, and other agencies through partnerships are needed to build an integrated monitoring program. In the process of carrying out these steps, the program helps to build institutional knowledge: ensuring that the results are available for future park staff and collaborators.



(Adapted from National Water Quality Monitoring Council)

Figure 2. The monitoring program can be viewed as an information system, with the various steps seen as pieces of a puzzle that must be designed to fit together for the program to be most effective. The monitoring program promotes communication, collaboration, and coordination with other programs and agencies to reach the overall goal of understanding, protecting, and restoring park resources.

The content and amount of detail included in the various products of the monitoring program will differ depending on the intended audience for each report. At the local level, park managers and natural resource staff and collaborators need to have available the detailed, complex scientific data relevant to

the park's issues and resources. At the national level, however, a different scale of analysis and reporting is needed to be most effective. To report on the status and trends in the condition of natural resources in the National Park Service, the NPS is developing a Natural Resource Scorecard that will involve the integration and evaluation of detailed scientific data for each park and resource category by experts. For effective communication, the overall assessment of resource status and trends (the “highly aggregated indices” zone at the top of the information pyramid shown in Figure 3) will be presented using a simple, clear public message, but the results will be supported by the large amount of detailed, complex scientific data and information depicted as the lower levels of the information pyramid (Figure 3).

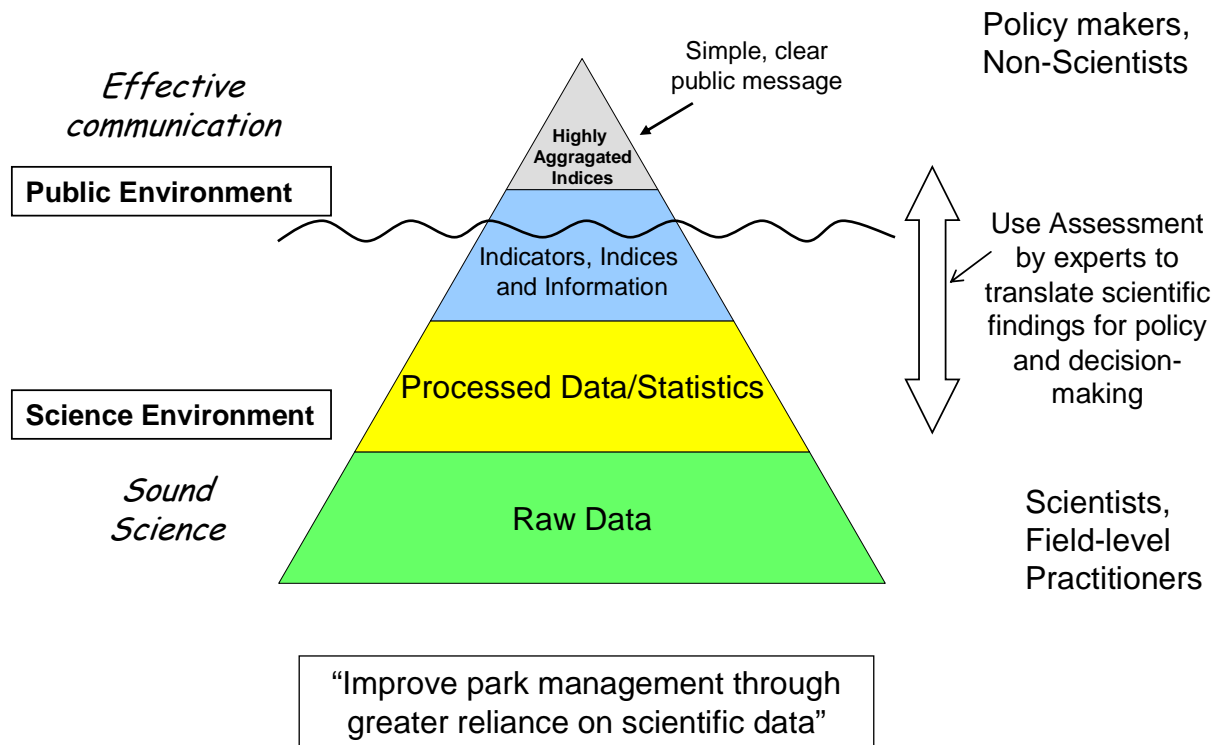


Figure 3. The information pyramid. The amount of detail and scale of analysis of scientific data will differ depending on the intended audience for the various reports and presentations. National-level reporting to the American public and to Congress will involve assessments by experts and presentations of data using simple graphical messages, but the results will be supported by a huge amount of detailed, complex scientific data that is available at the park and network level.

A summary of the various types of reports, presentations, and websites that will be produced by the monitoring networks for key audiences is shown in Table 1 below. Websites developed and maintained by each network will be a key outlet for distributing results to key audiences. In addition to the various kinds of written reports and presentations at scientific meetings and symposia, many networks will coordinate annual “Science Day” briefings targeted at park managers, where scientists from a number of programs will provide briefings to managers and other staff on key findings and potential action items for their particular project or discipline. These “Science Day” briefings will also promote integration and synthesis across programs and projects by allowing various scientists and managers to hear what is going on with other projects and programs in the park.

Type of Report	Purpose of Report	Primary Audience	How Often?	Who Initiates?	Peer Reviewed?
Annual Administrative Report and Work Plan	Account for funds and FTEs expended; Describe objectives, tasks, accomplishments, products of the monitoring effort; Improves communication within park, network, region, Program	Superintendents, network staff, regional coordinators, and Servicewide program managers; admin. report used for annual Report to Congress.	Annual; due in early November	Network coordinators; approved by network board of directors	Review and approval by Regional Office and Servicewide Program manager
Annual Reports for Specific Protocols or Projects	Archive annual data and document monitoring activities for the year; Describe current condition of the resource; Document changes in monitoring protocols; Communication within the park or network	Park resource managers; network staff; external scientists	Annual	Network staff & project leaders or network coordinator	Peer reviewed at network level
Inventory Project Reports	Document results from inventory projects; Describe current status or distribution of the resource	Park resource managers; network staff; external scientists; Servicewide program managers	At end of project	Project leader of inventory effort	Peer reviewed at network level
Periodic Analysis and Synthesis Reports – Trend Analysis	Determine patterns/trends in condition of resources being monitored; Discover new characteristics of resources and correlations among resources being monitored; Analyze data to determine amount of change that can be detected by this type and level of sampling; Provide context; interpret monitoring results within a multi-park, regional or national context; Recommend changes to management of resources (feedback for adaptive management)	Superintendents, park resource managers, network staff, external scientists	3-5 year intervals for resources sampled annually	Network staff & project leaders or network coordinator	Peer reviewed at network level
Program and Protocol Review Reports	Periodic formal reviews of operations and results (5 year intervals recommended); Review protocol design and products to determine if changes needed; Part of quality assurance & peer review process	Superintendents, park resource managers, network staff, Servicewide Program managers, external scientists	Approx. every 5 years	Network staff & project leaders or network coordinator	Peer reviewed at regional or national level
Scientific Journal articles and Book Chapters	Document and communicate advances in knowledge; Part of quality assurance & peer review process	External scientists, park resource managers, network staff	Varies	Project leaders, network staff or external scientists	Peer reviewed by journal or book editor
Symposia, Workshops and Conferences	Review and summarize information on a specific topic or subject area; Communication of latest findings with peers; Helps identify emerging issues and generate new ideas	Park resource managers, network staff, external scientists	Varies	Project leaders, network staff or external scientists	May be peer reviewed by editor if written papers are published
State of the Parks Report	Describes current conditions of park resources; Report interesting trends and highlights of monitoring activities; Identifies situations of concern; Explores future issues and directions	Congress, budget office, NPS leadership, superintendents, general public	Annually	Compiled by WASO from data provided by networks	Peer reviewed at national level